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THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Philippe Gambier § Art Unit: 3677  
Serial No.: 10/675,559 §  
Filed: September 30, 2003 § Examiner: William L. Miller  
For: Thermoplastic Seal and Method § § Atty. Dkt. No.: SHL.0272US (68.0412)

**Mail Stop Appeal Brief—Patents**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF**

Dear Sir:

The following sets forth Appellant's Reply to the Examiner's Answer dated December 1, 2006.

**A. REPLY TO THE EXAMINER'S COMMENTS REGARDING THE STATUS OF AMENDMENTS AFTER FINAL**

The Examiner stated that Appellant's statement of the status of amendments after final rejection contained in the Appeal Brief was incorrect. The Examiner referred to the request for reconsideration filed on May 25, 2006. However, as noted by the Examiner, no amendment was made in this request for reconsideration. Therefore, Appellant's statement in the Status of Amendments after Final section of the Appeal Brief is correct, as no amendment of the claims after final has been made.

Date of Deposit: February 1, 2007

I hereby certify under 37 CFR 1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313.

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B. REPLY TO THE EXAMINER'S ANSWER REGARDING INDEPENDENT CLAIMS 1, 15, 28, AND 38

As acknowledged by the Examiner, the Related Art section of the present application (indicated by the Examiner as being the APA) lists several prior art downhole seals that are unreliable. *See* Examiner's Answer at 7. However, the Examiner noted that this statement of the shortcomings of the prior art downhole seals provided the motivation to replace those seals with the seal described in Taylor. *Id.* at 7.

Appellant disagrees with the Examiner's assertion that the identification of the shortcomings of prior art seals would provide the suggestion to incorporate the teachings of Taylor into APA. Clearly, a fair reading of the APA would indicate that absolutely no suggestion is provided in the APA of substituting the seals described in the APA with a seal assembly having a thermoplastic seal and a preload member to apply a force to induce cold flow of the thermoplastic seal to seal against the outer surface of a cable. Taylor also similarly fails to provide the requisite suggestion to make this modification. Except for mentioning use of a thermoplastic seal to seal a coupling between two pipes (*see* Figures 1 and 2 of Taylor), there is no suggestion in Taylor of using its sealing mechanism to seal against an outer surface of the cable. Thus, neither APA nor Taylor provides the requisite suggestion to modify the teachings of APA to achieve the claimed invention.

Another point of error made in the Examiner's Answer is the Examiner's continued reliance of "knowledge generally available to one of ordinary skill in the art" in supporting the obviousness rejection. Examiner's Answer at 6. Except for a general reference to this "knowledge," the Examiner has cited to no objective evidence that would establish what this "knowledge generally available to one of ordinary skill" would include, and how such "knowledge" would have suggested a modifying APA with the teachings of Taylor.

In view of the foregoing, it is clear that a *prima facie* case of obviousness has not been established.

**C. REPLY TO EXAMINER'S ANSWER REGARDING REJECTION OF THE DEPENDENT CLAIMS.**

The Examiner conceded that Evans and Wadahara "are not of the same field of endeavor as the appellant's invention, namely downhole applications..." Examiner's Answer at 7. However, the Examiner stated that Evans and Wadahara address "a similar problem" as the claimed invention. However, it is noted that Appellant's previous arguments focused on the fact that Evans is directed to a completely different teaching with respect to thermoplastic materials, in that Evans relates to manufacturing high-quality composite materials from fiberous materials. There is no suggestion whatsoever that the thermoplastic materials described in Evans can be used in a downhole application. Because the Examiner has not cited to any objective evidence that would have provided the suggestion to combine the teachings of Evans with APA and Taylor, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to the claims rejected as being obvious over APA, Taylor, and Evans.

Similarly, with respect to the rejection of claims over APA, Taylor, and Wadahara, the Examiner has not cited to any objective evidence that would have suggested the incorporation of the PET material of Wadahara into APA and Taylor. Clearly, there existed no suggestion in Wadahara that it would be desirable to incorporate a thin-walled, molded article having desired flame retardency, as described in Wadahara, into a downhole application to provide a seal around a cable or control line.

D. CONCLUSION

In view of the foregoing and arguments presented in the Appeal Brief, reversal of all final rejections is respectfully requested.

Respectfully submitted,

Date: Feb. 1, 2007



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